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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/519,526	12/27/2004	Ashley Christopher Bryant	COLGRA P54AUS	2493
20210	7590	01/28/2009	EXAMINER	
DAVIS & BUJOLD, P.L.L.C. 112 PLEASANT STREET CONCORD, NH 03301			SUNG, GERALD LUTHER	
ART UNIT	PAPER NUMBER			
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/519,526 <b>Examiner</b> GERALD L. SUNG	<b>Applicant(s)</b> BRYANT, ASHLEY CHRISTOPHER <b>Art Unit</b> 3741
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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 13 November 2008.
- 2a) This action is FINAL.      2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 18-29 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 18-20,22,24-27 and 29 is/are rejected.
- 7) Claim(s) 21,23 and 28 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 27 December 2004 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_
- 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_
- 5) Notice of Informal Patent Application
- 6) Other: \_\_\_\_\_

**FINAL REJECTION**

1. This office action is in response to the arguments and amendments filed on 10/27/2008.

***Response to Arguments***

2. Regarding the Applicant's arguments that the Hubbard reference does not disclose an air splitter means for splitting the air stream from the fan into subsidiary air stream for supply to respective nozzles, the air splitter means does not limit the claims as to when and where the air stream must be split rather than it must split the fan outlet stream into a plurality (4) of subsidiary streams.
3. Applicant's arguments with respect to claims 10-17 have been considered but are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 27-28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
6. Claim 27 is indefinite because it depends on itself. For the purposes of examination, claim 27 will be interpreted as being dependent from independent claim 26.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 18-20, 22, 24, and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Nightingale USPN 5,297,388.

9. Regarding claims 18 and 29, Szuminski discloses a turbofan engine comprising a motor driven fan 2, an air splitter means 42, a plurality of vectoring air jet nozzles 24, 26, 34, 36 (considered vectorable nozzles on port and starboard sides), a means for ducted delivery 28, 30 of the subsidiary air streams to respective ones of the vectoring air jet nozzles, wherein the air splitter means comprises selectively adjustable splitter means for splitting the high pressure air stream proportionally between the subsidiary air streams, the selectively adjustable splitter means being selectively adjustable to vary the proportions with which the high pressure air stream is split between subsidiary air streams. Element 46 is adjustable to control the amount of flow into the vectorable nozzles.

10. Regarding claim 19, the blocker valves 46 are capable of diverting the volume flow rate of air to each of the four subsidiary air streams.

11. Regarding claim 20, Nightingale discloses a selectively adjustable splitter means 42 comprising a splitter plate 44 (annular sleeve valve) defining a first and second duct entry opening 34, 36 (shown in figures 2a-c) a control blade device 46 (valve segments) mounted for angular displacement relative to the first and second duct entry openings (also shown in figures 2a-c) and means for selectively adjusting the angular displacement of the control blade device 52 for varying the proportions by which air of the high pressure air stream is split between the first and second duct entry openings. The control blade device functions as a hinging door where the angular position of the door changes the flow rate of the air.

12. Regarding claim 22, the selectively adjustable splitter means comprises a splitter plate 44 that controls the control blade 46 which defines the size of the opening of the two outlet ducts thereby effecting total flow to all nozzles, a plurality of control blade devices 46 exceeding in number 4, each control blade device being mounted for angular displacement relative to the two duct entry openings of its respectively associated pair of duct entry openings, and means for selectively adjusting the angular displacement 52 of the control blade device for varying the proportions by which the high pressure air stream is split between the two duct entry openings of the pair of duct openings associated with the respective control blade.

13. Regarding claim 24, Nightingale discloses in column 4 lines 26-30 that a plurality of actuators control the movement of the sleeve valve where typically 4 actuators may be spaced circumferentially around the sleeve.

***Claim Rejections - 35 USC § 103***

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

16. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nightingale USPN 5,297,388 in view of Szuminski et al. USPN 4,713,935.
17. Regarding claim 25, Nightingale discloses all elements except for straightening blades.
18. Szuminski teaches the use of flow straightening blades in the nozzle 12 clearly shown in figures 3, 5, 6, 8, and 10 to straighten the flow in the direction of the nozzle. One of ordinary skill in the art at the time of the invention would have found it obvious to modify the vectorable nozzles 24, 26, 34, and 36 of Nightingale to include the flow straightening blades taught by Szuminski in order to straighten the flow through the exhaust nozzle to help direct the flow in the desired direction.
19. Claim 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nightingale USPN 5,297,388 in view of Howes USPN 3,341,154.
20. Regarding claim 26, referring to claims 18-20, 22, and 24 above, Nightingale discloses all elements except for the use of servomotors to actuate the vectorable nozzles.
21. The use of servomotors to control the vectoring of vectorable nozzles is well known in the art as taught by Howes. Referring to claim 2 of Howes, Howes teaches the use of a servo system operative to control the rotational setting of the nozzle. One of ordinary skill in the art at the time of the invention would have found it obvious to control the vectorable nozzles 24, 26, 34, 36 of Nightingale via servo motor controls in order to provide a control mechanism for keeping the aircraft in flight when the aircraft is in a VTOL phase.
22. Regarding claim 27, referring to claim 22 above, Nightingale discloses all elements.

***Allowable Subject Matter***

23. Claims 21 and 23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
24. Claim 28 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.
25. The following is a statement of reasons for the indication of allowable subject matter:  
Claims 21, 23, and 28 claim a plurality of passages defined by the control blade device where the closest prior art Nightingale discloses a duct with a valve 46 which varies the air flow through the vectorable nozzles where the valve 46 being interpreted as a control blade device does not define a plurality of parallel passages for the directing of high pressure air into the duct entry openings.
26. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).  
Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GERALD L. SUNG whose telephone number is (571)270-3765. The examiner can normally be reached on M-F 9am-5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Cuff can be reached on (571) 272-6778. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/William H. Rodriguez/  
Primary Examiner, Art Unit 3741

Gerald Sung  
Patent Examiner  
GS  
22 January 2009